



BILLING CODE 6717-01-P

DEPARTMENT OF ENERGY

Federal Energy Regulatory Commission

[Docket No. AD10-12-014]

Increasing Market and Planning Efficiency through Improved Software;

Notice of Technical Conference:

Increasing Real-Time and Day-Ahead Market and Planning Efficiency Through Improved Software

Take notice that Commission staff will convene a technical conference on June 27, 28, and 29, 2023 to discuss opportunities for increasing real-time and day-ahead market and planning efficiency through improved software. A detailed agenda with the list of and times for the selected speakers will be published on the Commission's website¹ and in eLibrary after April 14, 2023.

This conference will bring together and encourage discussion between experts from diverse backgrounds, including electric power system operators, software developers, and professionals from government, research centers, and academia. The conference will bring these experts together for the purposes of stimulating discussion, sharing information, and identifying fruitful avenues for research on improving software for increased efficiency and reliability of the bulk power system.

This conference will build on discussions at prior conferences in this proceeding by focusing on topics identified as important to market efficiency in those conferences. Broadly, such topics fall into the following categories:

Topics for presentations at the conference will include:

- (1) Advances in power market software that can shorten day-ahead and real-time market solve times. This might include taking advantage of multiple cores and/or graphics processing units, reducing model granularity and/or the number of modeled constraints in places where it has little impact (especially in the day-ahead markets), migrating to higher-performance computing solutions, more efficient unit commitment formulations, and any other approaches to shortening day-ahead and real-time market solve times.

¹ <https://www.ferc.gov/industries-data/electric/power-sales-and-markets/increasing-efficiency-through-improved-software>

- (2) Software related to implementing grid-enhancing technologies, such as those described in Docket Nos. AD19-19² and AD19-15,³ including optimal transmission switching, dynamic transmission line ratings, power flow controls, and any software related to implementing the Commission's recent rulemaking regarding line ratings in Order No. 881.⁴
- (3) Software advances to help with the transition to increased use of probabilistic models in system planning and operations, whether scenario-based or stochastic, to better account for low-probability, high-impact events, such as extreme weather events, which are increasingly common. This could include software that improves resource adequacy and transmission planning models through means such as using down-scaled climate change scenarios in such models. This could also include software that improves forecasting of loads and generation during extreme weather events.
- (4) Software and/or market designs that better represent and improve power markets' ability to meet emerging system needs. Among emerging needs described in recent Commission proceedings,⁵ key examples include flexibility to manage increasing uncertainty in the operational and day-ahead and real-time time frame. Examples of software and/or market designs that improve power markets' ability to meet these and other emerging system needs include dynamic demand curves for existing reserve products, new reserve products, multi-interval market clearing, more granular market clearing (e.g. 15-minute day-ahead markets), stochastic market clearing, improvements in forecasting and visibility, novel constraint relaxation hierarchies, and others.
- (5) Software for better modeling and computation of resources with distinct operating characteristics such as storage resources, hybrid resources, aggregations of DERs, and others, including software that addresses challenges such resources pose to current market-clearing and dispatch algorithms.
- (6) Other improvements in algorithms, model formulations, or hardware that may allow for increases in market efficiency and enhanced bulk power system reliability.

² *Electric Transmission Incentives Policy under Section 219 of the Federal Power Act*, Docket No. AD19-19-000

³ *Managing Transmission Line Ratings*, Docket No. AD19-15-000

⁴ *Managing Transmission Line Ratings*, Order No. 881, 177 FERC ¶ 61,179 (2021)

⁵ *See Modernizing Wholesale Electricity Market Design*, Docket No. AD21-10-000

The conference will take place in a hybrid format, with presenters and attendees allowed to participate either in person or virtually. Further details on both in-person and virtual participation will be released prior to the conference.

Attendees must register through the Commission's website on or before June 2, 2023. Access to the conference (virtual or in-person) may not be available to those who do not register.

Speaker nominations must be submitted on or before March 24, 2023 through the Commission's website by providing the proposed speaker's contact information along with a title, abstract, and list of contributing authors for the proposed presentation. Proposed presentations should be related to the topics discussed above. Speakers and presentations will be selected to ensure relevance to those topics and to accommodate time constraints.

The Commission will accept comments following the conference, with a deadline of July 28, 2023.

There is an "eSubscription" link on the Commission's web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

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Dated: February 7, 2023.

Kimberly D. Bose,
Secretary.